## BEFORE THE SURFACE TRANSPORTATION BOARD

RAILROAD COST OF CAPITAL - 2006

Ex Parte No. 558 (Sub-No 10)

221715

# REBUTTAL STATEMENT OF ASSOCIATION OF AMERICAN RAILROADS

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George A. Aspatore
Paul A. Guthrie
Paul R. Hitchcock.
Theodore K. Kaličk.
David C. Reeves
Louise Anne Rinn
John M. Scheib
Peter J. Shudtz
Richard E. Weicher

Louis P. Warchot
Sr. Vice President Law & General Counsel
Association of American Railroads
50 Γ Street, N W
Washington, D.C 20001

G. Paul Moates
David M. Levy
Donald H. Smith
SIDLEY AUSTIN LLP
1501 K. Street, N.W.
Washington, D.C. 20005
(202) 736-8000

Counsel for the Association of American Railroads and Member Railroads

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## REBUTTAL STATEMENT OF ASSOCIATION OF AMERICAN RAILROADS

In accordance with the Board's decision served on January 17, 2008, in this proceeding (the "Decision"), the Association of American Railroads ("AAR") respectfully submits this Rebuttal Statement in response to the Reply Statement of the Western Coal Traffic League filed February 15, 2008 ("WCTL Reply").

The AAR's Opening Statement (filed February 1, 2008, corrected February 5, 2008), including the Verified Statement of Craig F. Rockey, AAR's Vice President—Policy and Economics, described the AAR's calculation of the rail industry's cost of capital for 2006 using the Capital Asset Pricing Model ("CAPM") adopted by the Board in Ex Parte No 664, Methodology To Be Employed In Determining the Railroad Industry's Cost of Capital (served January 17, 2008) The AAR's Opening Statement showed that using the CAPM methodology, the cost of equity capital for the industry in 2006 was 11.16 percent; the cost of debt was 5 97 percent, and the weighted average cost of capital for 2006 was 10 percent

In its Reply, WCTL asserts that the AAR made certain "calculation errors" in its Opening Statement. The AAR responds to WCTL's assertions as follows.

#### I. AAR CALCULATIONS

#### A. Risk-Free Rate

Under the CAPM methodology, the cost of equity is calculated using a risk-free rate of return plus a market risk premium. In its Decision, the Board stated that the risk-free rate for the 2006 cost of capital determination should be "the average yield to maturity in 2006 for a 20-year U.S. Freasury Bond." Accordingly, the AAR's witness Rockey obtained the necessary data directly from the web site of the Federal Reserve Board, which shows that the applicable rate for 2006 was 5.00 percent. See V.S. Rockey at 8-9 and n 4

In its Reply, WCTL argues that the Board should rely instead on a figure of 4 99 percent calculated by WCTL witnesses Crowley and Fapp. WCTL states that Crowley and Fapp previously provided workpapers to support this calculation, which allegedly follows the approach previously used by the Board in Ex Parte No 664 WCTL Reply at 2.

WCTI. ofters no reason why its calculation of the applicable rate should be regarded as more credible or reliable than Treasury Bond data available directly from the Federal Reserve WCTL does not argue that the Federal Reserve data are inaccurate, rather, WCTL simply asserts that the Board should use its calculations instead.

The Federal Reserve's Treasury Bond data are relied upon by investors and financial institutions throughout the United States and the world. In the absence of a clear showing of error, the Federal Reserve data should be regarded as authoritative WCTL has not even attempted to show any such error. Therefore, the Board should reject WCTL's alternative calculations, and should adopt the AAR's approach, relying on Treasury Bond data from the Federal Reserve in calculating the risk-free rate.

#### B. Market Risk Premium

The Board's Decision required that the market risk premium (also called the equity risk premium) be calculated using Standard & Poor's S&P 500 stock index beginning with the year 1926. The Decision stated (at 1) that these data are "available from a variety of commercial vendors, including Ibbotson."

Because the Ibbotson market risk data are highly regarded and well accepted, the AAR's witness Rockey relied on market risk premium data drawn from the *Stocks, Bonds, Bills, and Inflation 2007 Yearbook I aluation Edition* ("SBBF") published by Morningstar, Inc., which now owns Ibbotson Associates V.S. Rockey at 10. Mr. Rockey relied on the Long Horizon Equity Risk Premium (based on the S&P 500) of 7.13 percent. *Id., cuting SBBI* at 72.

In its Reply, WCTL argues that the Board should rely on a rounded-off figure of 7.1 percent appearing elsewhere in the *SBBI* publication WCTL offers no reason why the Board should rely on the less precise figure, other than to assert that WCTL "previously submitted materials" explaining how the 7.1 percent figure was derived. WCTL Reply at 2.

The Board already has indicated that market risk data from lbbotson should be regarded as reliable. Decision at 1. Other things being equal, the 7.13 percent figure from lbbotson should be preferred as being more precise than the rounded-off figure on which WCTL seeks to rely. Moreover, using the 7-13 percent figure (with two digits after the decimal) is consistent with the risk-free rate figure discussed above (5.00 percent, using the Federal Reserve's data).

WCTL has provided no basis for rejecting the 7.13 percent figure provided by Ibbotson/Morningstar in the SBBI publication—The AAR properly relied on this figure, and the STB should adopt it as the more precise and more comparable figure

#### C. Beta Calculation

In the CAPM formula, the market risk premium is adjusted using a value known as beta, which is a measure of the systematic, non-diversifiable risk of railroad industry equities. The STB's Decision directed the parties to "calculate beta using a portfolio of weekly, mergeradjusted railroad stock returns for the prior 5 years"

To calculate a weekly return for each week in the prior five years (*i.e.*, 2002-2006), AAR witness Rockey collected weekly stock price data (adjusted for splits and dividends) for each of the four railroads included in the CAPM analysis, using the closing price for the last day of trading in each week. Mr. Rockey then computed the market value for the relevant *portfolio* of railroad stocks by multiplying each railroad's stock price by its shares outstanding (using shares outstanding data from each railroad's 10-Q and 10-K reports, adjusted for stock splits when necessary). The sum of the four market capitalization values represents the portfolio value for any given week. To calculate a return for the *first* week of 2002, Mr. Rockey began with the closing value of the portfolio on the last trading day of the preceding week, which was the last week in 2001 (*i.e.*, "Week 0"). This approach was necessary so that the weekly return for the first week of the period would be comparable to the other weekly returns included in the regression analysis

Mr. Rockey also obtained values for the S&P 500 (Total Return – 1988) Index from Standard & Poor's,<sup>2</sup> and the applicable interest rates for 3-Month U.S. Treasury Bills, from the Federal Reserve web site. Mr. Rockey then computed the weekly returns in excess of the risk-

<sup>&</sup>lt;sup>1</sup> The AAR believes its approach is consistent with the Board's statement in the Decision (at 2) directing that "Parties will calculate beta using a *portfolio* of weekly, merger-adjusted railroad stock returns for the prior 5 years" (emphasis added).

<sup>&</sup>lt;sup>2</sup> Although the S&P 500 (Total Return – 1988) Index data are not currently publicly available on a weekly basis, the AAR will inquire to determine whether these data can be made available to interested parties in the future

free rate for the railroad industry portfolio and the S&P 500 (Total Return – 1988) Index. He then estimated the regression equation specified by the Board (in point 3 of the Decision, at 2) and obtained a beta value of 0.864 for the rail industry during the relevant time period.

In its Reply (at 3), WCTL argues that the AAR's regression analysis should have analyzed "only changes in the price of stock," instead of using changes in the market value of the railroad industry portfolio. But changes in the price of a share of stock are an incomplete measure of shareholder returns without also considering changes in the number of shares outstanding. The objective in estimating the industry beta is to relate changes in the returns earned by investors holding the entire portfolio of railroad industry stocks to changes in the returns to holding the entire market portfolio as measured by the S&P 500 index. Moreover, the S&P 500 index itself is a market capitalization-weighted index in which "[t]he percentage increase in the total market value from one day to the next represents the increase in the index." I herefore, the AAR's methodology for computing returns on the railroad industry portfolio is consistent with that used to measure the returns on the market portfolio.

WCTL also argues that the AAR erred by "starting with a base that is outside the fiveyear period from 2001-2005 [sic]". This criticism is misguided, for two reasons.

First, the Board's Decision directed the parties to "calculate beta using a portfolio of weekly, merger-adjusted railroad stock returns for the prior 5 years" Accordingly, the AAR calculated "weekly returns" for each week in the "prior 5 years" (*i.e.*, 2002-2006). As described above, in calculating a return for the *first* week of 2002, it was necessary to begin with the last

<sup>&</sup>lt;sup>3</sup> Zvi Bodie, Alex Kane, Alan J Marcus, *Investments*, at 45 (7th ed 2008), *see also Standard & Poor's Index Mathematics Methodology*, at 4 ("|m|ost of Standard & Poor's indices [including the S&P 500] are capitalization-weighted indices..."). This reference, showing the mathematical formula for the calculation of the S&P 500 and other S&P indices, is available online at http://www2 standardandpoors.com/spf/pdf/index/Index\_Mathematics\_Methodology\_Web.pdf

closing price of the preceding week ("Week 0"), which was the last full week in 2001. This approach made the weekly return for the first week of 2002 comparable to the other weekly returns included in the regression analysis

Second, WCTL appears to argue that the starting point for the regression analysis must begin at some point after the calendar year has begun. But in this case, the first trading day of the first week of 2002 fell on Monday, December 31, 2001. WCTL's approach either would require that the regression analysis include a nonstandard week with only three trading days (January 2-4), or would require the analysis to exclude these trading days altogether. The AAR believes that it is more accurate, and more consistent with the Board's instructions in the Decision, to calculate the return for the first week of 2002 on a consistent basis, using the closing price from the last day of the preceding week (*i.e.*, December 28, 2001).

#### II. CONCLUSION

The AAR's calculations of the cost of equity and the cost of capital, as described in its February 1, 2008, filing, are methodologically sound and are consistent with the Board's directions in its Decision WCTL's proposed modifications of the AAR's calculations are unwarranted and unsound, and should not be adopted

Respectfully submitted,

G. Real Moston

George A Aspatore
Paul A Guthrie
Paul R Hitchcock
Theodore K. Kalick
David C. Reeves
Louise Anne Rinn
John M. Scheib
Peter J Shudtz
Richard E Weicher

Louis P Warchot Sr. Vice President Law & General Counsel Association of American Railroads 50 F Street, N W Washington, D C 20001

G. Paul Moates
David M. Levy
Donald H. Smith
SIDLEY AUSTIN LLP
1501 K Street, N.W.
Washington, D C 20005
(202) 736-8000

Counsel for the Association of American Railroads and Member Railroads

February 29, 2008

### CERTIFICATE OF SERVICE

I hereby certify that on this 29th day of February, 2008, I served by first class mail,

postage prepaid, a copy of the foregoing on the following:

Gordon P. MacDougall 1025 Connecticut Avc., NW, Suite 919 Washington, DC 20036 Linda J. Morgan Covington & Burling 1201 Pennsylvania Ave, NW Washington, DC 20004

Robert D Rosenberg Slover & Loftus 1224 Seventeenth St., NW Washington, DC 20036-3003

Kim Hillenbrand Snavely King Majoros O'Connor & Lee, Inc. 1111 14th St., NW, Suite 300 Washington, DC 20005

Lauren I reeman